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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Itay Katz

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EXAMINER

SHERMAN, STEPHEN G

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,628	Applicant(s) KATZ, ITAY	
	Examiner STEPHEN G. SHERMAN	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/8/2008; 5/27/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the application filed 21 September 2006.
Claims 1-24 are pending.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statements (IDS) submitted on 8 April 2008 and 27 May 2008 are being considered by the examiner.

Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed "program storage device" and "computer program product comprising a computer readable medium." See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).
Correction of the following is required:

Art Unit: 2629

The Examiner notes that since the specification recites the usage of a memory and does not recite anything about signals, that the claimed " program storage device" and "computer readable medium" are in fact the memory described in the specification and not a signal, making the claims statutory.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claim 23 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 23 is directed to a program itself, not a process occurring as a result of executing the program, a machine programmed to operate in accordance with the program nor a manufacture structurally and functionally interconnected with the program in a manner which enable the program to act as a computer component and realize its functionality. It's also clearly not directed to a composition of matter. Therefore, it's non-statutory under 35 USC 101.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2629

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3 and 5-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Horiki (US 2002/0140667).

Regarding claim 1, Horiki discloses a system for inputting operation system (OS) commands to a data processing device comprising:

(a) a video camera capturing images of a viewing space (Figure 6a, 611); and

(b) a processor (Figure 7, 701/702/703) configured to:

i) detect a predetermined object in one or more images obtained by the camera using an object recognition algorithm not involving background information in an image (Paragraph [0131]);

ii) extract one or more image analysis parameters of the object in the one or more images obtained by the camera (Paragraph [0132]); and

iii) for each of one or more motion detection tests:

(I) applying the motion detection test to image analysis parameters extracted during a recent time window (Paragraphs [0136]-[0138]); and

(II) executing an operating system command associated with the motion detection test if the motion detection test succeeds (Paragraphs [0134] and [0136]-[0138]).

Regarding claim 3, Horiki discloses the system according to claim 1 wherein the predetermined object is a finger or a stylus (Figure 8).

Regarding claim 5, Horiki discloses the system according to claim 1 wherein one or more of the image analysis parameters is history dependent (Paragraph [0138]).

Regarding claim 6, Horiki discloses the system according to claim 1 wherein one or more of the image analysis parameters is selected from

- (a) a location of a tip of the object in an image;
- (b) a width of the object in an image;
- (c) a length of the object in an image;
- (d) an orientation of the object in an image (Figures 10-12);
- (e) a speed of the object at a time the image was obtained by the camera;
- (f) a change in the a width of the object at a time the image was obtained by the camera;
- (g) a rate of rotation of the object at a time the image was obtained by the camera;
- (h) an image analysis parameter having a first value if the object is detected in the image and a second value if the object is not detected in the image.

Regarding claim 7, Horiki discloses the system according to claim 1 wherein one or more of the motion detection tests is a motion detection test detecting a motion selected from:

- (a) during the time window the object approached the camera;
- (b) during the time window the object moved away from the camera;
- (c) during the time window the object first approached the camera and then moved away from the camera;
- (d) during the time window the object disappeared from the viewing space of the camera;
- (e) during the time window the object moved in a predetermined path;
- (f) during the time window the object rotated,
- (g) during the time window the object was stationary,
- (h) during the time window the object moved (Paragraph [0136]);
- (i) during the time window the object performed a flicking motion;
- (j) during the time window the object accelerated;
- (k) during the time window the object decelerated;
- (l) during the time window the object moved and then stopped.

Regarding claim 8, Horiki discloses the system according to claim 7 wherein one or more of the motion detection tests is a motion detection test detecting that the object moved in a predetermined path during the time window (Paragraph [0137]).

Regarding claim 9, Horiki discloses the system according to claim 1 wherein one or more of the OS commands is selected from:

- (a) depressing a virtual key displayed on a screen;
- (b) moving a curser appearing on a screen (Paragraph [0137])
- (c) running on the processor a software application;
- (d) turning alight on or off;
- (e) turning off the system;
- (f) zooming in or out of a picture on a screen;
- (g) adjusting a radio or other entertainment device;
- (h) adjusting a medical device; and
- (i) sending a command to an application.

Regarding claim 10, Horiki discloses a data processing device comprising the system for inputting operation system (OS) commands according to claim 1 (Figure 6).

Regarding claim 11, Horiki discloses the data processing device according to claim 10 selected from a personal computer (PC), a portable computer, a PDA, a laptop, a palm plot, or mobile telephone, a radio, a digital camera a vehicle, a medical device, a smart home appliance, and a mobile game machine (Figure 6).

Regarding claim 12, this claim is rejected under the same rationale as claim 1.

Art Unit: 2629

Regarding claim 13, this claim is rejected under the same rationale as claim 2.

Regarding claim 14, this claim is rejected under the same rationale as claim 3.

Regarding claim 15, this claim is rejected under the same rationale as claim 4.

Regarding claim 16, this claim is rejected under the same rationale as claim 5.

Regarding claim 17, this claim is rejected under the same rationale as claim 6.

Regarding claim 18, this claim is rejected under the same rationale as claim 7.

Regarding claim 19, this claim is rejected under the same rationale as claim 8.

Regarding claim 20, this claim is rejected under the same rationale as claim 9.

Regarding claim 21, this claim is rejected under the same rationale as claim 1 plus see paragraph [0151].

Regarding claim 22, this claim is rejected under the same rationale as claim 1 plus see paragraph [0151].

Regarding claim 23, Horiki discloses a computer program comprising computer program code means for performing all the steps of any one of claim 12 when said program is run on a computer (Paragraph [0151]).

Regarding claim 24, Horiki discloses a computer program as claimed in claim 24 embodied on a computer readable medium (Paragraph [0151]).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horiki (US 2002/0140667) in view of AAPA (Specification, page 2, line 22 to page 3, line 2).

Regarding claim 2, Horiki discloses the system according to claim 1.

Horiki fails to explicitly teach wherein detecting a predetermined object in one or more images obtained by the camera is carried out using a segmentation algorithm.

AAPA discloses that using segmentation algorithms are well known in the art (Specification, page 2, line 22 to page 3, line 2) and therefore, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use a segmentation algorithm as taught by AAPA in the system taught by Horiki in order to achieve the predictable result of providing an algorithm that would detect the finger

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horiki (US 2002/0140667).

Regarding claim 4, Horiki discloses the system according to claim 1.

Horiki fails to explicitly teach wherein one or more of the image analysis parameters is history independent, however, since it is not disclosed as being essential to the invention, it would have been an obvious design choice to "one of ordinary skill" in the art at the time the invention was made to make the image analysis either history dependent or independent depending upon the design characteristics of the device.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Maruno et al. (US 6,191,773) and Katagiri et al. (US 6,947,029) each disclose of input systems in which a camera is used to detect input being made without using background information.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN G. SHERMAN whose telephone number is (571)272-2941. The examiner can normally be reached on M-F, 7:30 a.m. - 4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen G Sherman/
Examiner, Art Unit 2629

11 January 2010